

**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE
BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES**

In re Application of:
Eric L. Barsness et al.

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Examiner: James H. Zurita

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July 30, 2007 /David M. Magness/
Date David M. Magness

APPEAL BRIEF

Applicants submit this Appeal Brief to the Board of Patent Appeals and Interferences on appeal from the decision of the Examiner of Group Art Unit 3625 dated March 8, 2007, finally rejecting claims 18-25 and 39-54. The final rejection of claims 18-25 and 39-54 is appealed. This Appeal Brief is believed to be timely since it is electronically transmitted by the due date of July 30, 2007, as set by the filing of a Notice of Appeal on May 30, 2007. Please charge the fee of \$500.00 for filing this brief to Deposit Account No. 09-0465/ROC920030288US1.

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Real Party in Interest

The present application has been assigned to International Business Machines Corporation, Armonk, New York.

Related Appeals and Interferences

Applicants assert that no other appeals or interferences are known to the Applicants, the Applicants' legal representative, or assignee which will directly affect or be directly affected by or have a bearing on the Board's decision in the pending appeal.

Status of Claims

Claims 18-25 and 39-54 are pending in the application. Claims 1-38 were originally presented in the application. Claims 39-54 have been added during prosecution. Claims 1-17 and 26-38 have been canceled without prejudice. Claims 18-25 and 39-54 stand finally rejected as discussed below. The final rejections of claims 18-25 and 39-54 are appealed. The pending claims are shown in the attached Claims Appendix.

Status of Amendments

All claim amendments have been entered by the Examiner. No amendments to the claims were proposed after the final rejection.

Summary of Claimed Subject Matter

A. CLAIM 18 - INDEPENDENT

One embodiment of the invention (see, e.g., Claim 18) provides a computer-implemented method of providing access to grid computing resources available to a plurality of users. See, e.g., Figure 2, Item 200; Page 11, Paragraph 0041; Figure 4, Item 400; Page 15, Paragraphs 0051-0052. The method includes receiving, from a requesting entity, a plurality of requests related to a benchmarking operation. See, e.g., Figure 2, Item 200; Page 11, Paragraph 0041; Page 12, Paragraph 0042; Figure 4, Items 402, 414, 416; Page 15, Paragraphs 0051-0052; Page 16, Paragraph 0055. At least one of the requests comprises a defined function to be performed and at least each of the remaining requests comprise a different resource specific criterion identifying a different specific resource to perform the defined function. See, e.g., Figure 4, Items 402, 414, 416; Page 15, Paragraphs 0051-0052; Page 16, Paragraph 0055. The method also includes, based on each resource specific criterion, identifying a grid computing resource as the specific resource to perform the defined function. See, e.g., Figure 4, Items 402, 414, 416; Page 15, Paragraphs 0051-0052; Page 16, Paragraph 0055. A different grid computing resource is identified for each different resource specific criterion. See, e.g., Figure 4, Items 402, 414, 416; Page 15, Paragraphs 0051-0052; Page 16, Paragraph 0055. The method further includes submitting each request to perform the defined function to an appropriate grid resource corresponding to the identified grid computing resource according to the respective different resource specific criterions. See, e.g., Figure 4, Items 402, 414, 416; Page 15, Paragraphs 0051-0052; Page 16, Paragraphs 0055-0056.

B. CLAIM 39 - INDEPENDENT

One embodiment of the invention (see, e.g., Claim 39) also provides a computer readable storage medium containing a program which, when executed by a processor, performs an operation. See, e.g., Figure 1, Items 100, 102, 108; Page 6, Paragraph 0028; Page 7, Paragraph 0031. The operation includes receiving, from a requesting

entity, a plurality of requests related to a benchmarking operation. See, e.g., Figure 2, Item 200; Page 11, Paragraph 0041; Figure 4, Items 402, 414, 416; Page 15, Paragraphs 0051-0052; Page 16, Paragraph 0055. At least one of the requests comprises a defined function to be performed and at least each of the remaining requests comprises a different resource specific criterion identifying a different specific resource to perform the defined function. See, e.g., Figure 4, Items 402, 414, 416; Page 15, Paragraphs 0051-0052; Page 16, Paragraph 0055. The operation also includes, based on each resource specific criterion, identifying a grid computing resource as the specific resource to perform the defined function. See, e.g., Figure 4, Items 402, 414, 416; Page 15, Paragraphs 0051-0052; Page 16, Paragraph 0055. A different grid computing resource is identified for each different resource specific criterion. See, e.g., Figure 4, Items 402, 414, 416; Page 15, Paragraphs 0051-0052; Page 16, Paragraph 0055. The operation further includes submitting each request to perform the defined function to an appropriate grid resource corresponding to the identified grid computing resource according to the respective different resource specific criterions. See, e.g., Figure 4, Items 402, 414, 416; Page 15, Paragraphs 0051-0052; Page 16, Paragraphs 0055-0056.

C. CLAIM 47 - INDEPENDENT

One embodiment of the invention (see, e.g., Claim 47) further provides a computerized environment, comprising a processor and a request manager which, when executed by the processor, is configured to receive, from a requesting entity, a plurality of requests related to a benchmarking operation. See, e.g., Figure 1, Item 100, 102, 108; Page 7, Paragraph 0031; Page 9, Paragraph 0035. At least one of the requests comprises a defined function to be performed and at least each of the remaining requests comprises a different resource specific criterion identifying a different specific resource to perform the defined function. See, e.g., Figure 4, Items 402, 414, 416; Page 15, Paragraphs 0051-0052; Page 16, Paragraph 0055. The request manager is also configured to, based on each resource specific criterion, identify a grid computing resource as the specific resource to perform the defined

function. See, e.g., Figure 4, Items 402, 414, 416; Page 15, Paragraphs 0051-0052; Page 16, Paragraph 0055. A different grid computing resource is identified for each different resource specific criterion. See, e.g., Figure 4, Items 402, 414, 416; Page 15, Paragraphs 0051-0052; Page 16, Paragraph 0055. The request manager is further configured to submit each request to perform the defined function to an appropriate grid resource corresponding to the identified grid computing resource according to the respective different resource specific criterions. See, e.g., Figure 4, Items 402, 414, 416; Page 15, Paragraphs 0051-0052; Page 16, Paragraphs 0055-0056.

Grounds of Rejection to be Reviewed on Appeal

1. Rejection of claims 18-23, 39-44 and 47-52 under 35 U.S.C. § 102(e) as being anticipated by *Solomon* (US PG-PUB US 20040162638 A1).
2. Rejection of claims 24-25, 45-46 and 53-54 under 35 U.S.C. § 103(a) as being unpatentable over *Solomon* in view of *Wu* (PG-PUB 20050038708).

ARGUMENTS

Rejection of Claims 18-23, 39-44 and 47-52 under 35 U.S.C. § 102(e) by *Solomon*.

The Applicable Law

"A claim is anticipated only if each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference." *Verdegaal Bros. v. Union Oil Co. of California*, 814 F.2d 628, 631, 2 USPQ2d 1051, 1053 (Fed. Cir. 1987). "The identical invention must be shown in as complete detail as is contained in the ... claim." *Richardson v. Suzuki Motor Co.*, 868 F.2d 1226, 1236, 9 USPQ2d 1913, 1920 (Fed. Cir. 1989). The elements must be arranged as required by the claim. *In re Bond*, 910 F.2d 831, 15 USPQ2d 1566 (Fed. Cir. 1990).

Applicants' Response to Examiner's Arguments

In this case, *Solomon* does not disclose "each and every element as set forth in the claim". For example, regarding claim 18, *Solomon* does not disclose "receiving, from a requesting entity, a plurality of requests related to a benchmarking operation". The Examiner argues that *Solomon* discloses this element at paragraph [0068]. However, the cited passage is in fact directed to how a swarm (e.g., of ants) forms. No reference to a benchmarking operation, or anything capable of being construed as a benchmarking operation, is disclosed in this portion of *Solomon*. Further, no computer implemented method comprising a step of receiving a plurality of requests related to a benchmarking operation is disclosed anywhere in *Solomon*. Accordingly, the rejection is believed to be defective and Applicants respectfully request that the rejection be withdrawn.

Claim 18 further recites that at least one of the requests relating to the benchmarking operation is a defined function to be performed and that the remaining requests of the benchmarking operation each include different resource specific criterions identifying a different specific resource to perform the desired function. Thus,

claim 18 recites a plurality of requests relating to a given benchmarking operation, where the requests specify a function to be performed and the different specific resources to perform the function. The relationship, then, between the given benchmarking operation and the plurality of requests is one to many: a given benchmarking operation (the one) → a plurality of requests (the many), where the requests collectively define the function to be performed and the resources required to perform the function. Regarding the recitation of the plurality of requests related to the benchmarking operation the Examiner relies on paragraph [0068], as noted above. Regarding the recitation of one of the requests specifying a function to be performed for the benchmarking operation, the Examiner relies on paragraph [0069]. However, paragraph [0069] is directed to insect and animal social behaviors and emulating biological systems form intelligence for the development of artificial systems of robots. At a minimum, since paragraph [0068] does not disclose receiving a plurality of requests related to a benchmarking operation, it follows that paragraph [0069] does not disclose one of the requests specifying a defined function to be performed (since the requests and the defined function are related to the benchmarking operation, per the explicit claim language). Further, emulating biological systems swarm intelligence does not necessarily disclose receiving a request comprising a defined function to be performed. Regarding the recitation of a remaining portion of the requests including different resource specific criterions each identifying a different specific resource to perform the defined function, the Examiner refers to paragraph [0341]. However, paragraph [0341] is directed to genetic programming used to calculate "initial connection weights". The only reference to a "criteria" in paragraph [0341] refers to "the criteria to satisfy the problem of identifying the initial weight of the connection". Thus, on its face, the criteria referred to by *Solomon* at paragraph [0341] is not a resource specific criterion identifying a specific resource to perform a desired function relating to a benchmarking operation.

Further, paragraph [0341] has no explicit relationship to the other paragraphs cited by the Examiner for teaching the other related limitations of the first element of claim 18. As set forth above, the first element of claim 18 recites an integrated element having limitations directed to a plurality of requests related to a benchmarking operation.

The Examiner's rejection on the other hand refers to disparate portions of *Solomon*, i.e., paragraphs [0068-0069] and paragraph [0341] having no explicit relationship to one another, and certainly no relationship in the context of a plurality of requests relating to a benchmarking operation. Accordingly, the rejection is believed to be defective and Applicants respectfully request that the rejection be withdrawn.

Claim 18 further recites "based on each resource specific criterion, identifying a grid computing resource as the specific resource to perform the defined function, wherein a different grid computing resource is identified for each different resource specific criterion". The Examiner suggests that this element is taught by *Solomon* at paragraph [0365]. Respectfully, Applicants submit that paragraph [0365] is yet another disparate teaching of *Solomon* not explicitly related to [0068-0069] and paragraph [0341]. More specifically, even assuming that the references in paragraph [0365] to requesting "computational resources at a specified location" and identifying "available AI computational resources" teaches identifying a grid computing resource, there is no teaching of identifying such a computing resource "based on each resource specific criterion", where the resource specific criterions each identify a different specific resource to perform a desired function, and where each resource specific criterion was included with requests received as a plurality of requests related to a benchmarking operation. Accordingly, the rejection is believed to be defective and Applicants respectfully request that the rejection be withdrawn.

Finally, the Examiner relies on paragraph [0315] for teaching "submitting each request to perform the defined function to an appropriate great resource according to the respective different resource specific criterions". However, paragraph [0315] and the preceding paragraphs [0313-0314] describe the concept of temporal objects and how such temporal objects are used in a database management system in order to prioritize data. Thus, this portion of *Solomon* is not directed to submitting requests to appropriate grid resources, and more particularly not directed to submitting such requests to perform a desired function where the requests are received as a plurality of requests relating to a benchmarking operation and include at least one request specifying the defined function and a remaining portion of requests comprising a different resource specific criterions identifying a different specific resource to perform

the defined function. Accordingly, the rejection is believed to be defective and Applicants respectfully request that the rejection be withdrawn.

The other independent claims are rejected for the same reasons as those applied to claim 18. Accordingly, Applicants analysis of claim 18 provided above is applicable to the rejections of the other independent claims. Since each of the independent claims is believed to be allowable, the dependent claims are also believed to be allowable.

Therefore, claims 18-23, 39-44 and 47-52 are believed to be allowable, and allowance of the claims is respectfully requested.

Rejection of Claims 24-25, 45-46 and 53-54 under 35 U.S.C. § 103(a) over *Solomon* in view of *Wu*.

The Applicable Law

The Examiner bears the initial burden of establishing a *prima facie* case of obviousness. See MPEP § 2142. To establish a *prima facie* case of obviousness three basic criteria must be met. First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one ordinary skill in the art, to modify the reference or to combine the reference teachings. Second, there must be a reasonable expectation of success. Third, the prior art reference (or references when combined) must teach or suggest all the claim limitations. See MPEP § 2143. The present rejection fails to establish at least the first and third criteria.

Applicants' Response to Examiner's Arguments

With respect to the third criteria, Applicants referred to the analysis above in which it was demonstrated that *Solomon* fails to teach a plurality of the recited in claim elements. Accordingly, on this basis alone, Applicants respectfully submit that the rejection is defective and request that the rejection be withdrawn and that the claims be allowed.

Regarding the first criteria, the Examiner states that the motivation to combine the teachings of *Solomon* with *Wu* is that "businesses need to charge money for their

services and products in order to stay in business". Applicants respectfully submit that such generalizations regarding motivation effectively obviate the motivation analysis altogether - since under such broad parameters motivation for anything exists. The Examiner's statement of motivation amounts no more than saying that the claimed invention is within the capabilities of one of ordinary skill in the art, which is not sufficient by itself establish a *prima facie* case of obviousness. MPEP §2143.01. Accordingly, applicants submit that the rejection is defective and respectfully request that the rejection be withdrawn and that the claims be allowed.

Therefore, the claims are believed to be allowable, and allowance of the claims is respectfully requested.

CONCLUSION

The Examiner errs in finding that:

1. Claims 18-23, 39-44 and 47-52 are anticipated by *Solomon*; and
2. Claims 24-25, 45-46 and 53-54 are unpatentable over *Solomon* in view of *Wu*.

Withdrawal of the rejections and allowance of all claims is respectfully requested.

Respectfully submitted, and
S-signed pursuant to 37 CFR 1.4,

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CLAIMS APPENDIX

1. - 17. (Canceled)

18. (Previously Presented) A computer-implemented method of providing access to grid computing resources available to a plurality of users, comprising:

receiving, from a requesting entity, a plurality of requests related to a benchmarking operation, wherein at least one of the requests comprises a defined function to be performed and at least each of the remaining requests comprise a different resource specific criterion identifying a different specific resource to perform the defined function;

based on each resource specific criterion, identifying a grid computing resource as the specific resource to perform the defined function, wherein a different grid computing resource is identified for each different resource specific criterion; and

submitting each request to perform the defined function to an appropriate grid resource corresponding to the identified grid computing resource according to the respective different resource specific criterions.

19. (Original) The method of claim 18, wherein each different resource specific criterion uniquely identifies a different particular computer and wherein identifying the grid computing resource comprises identifying the particular computer.

20. (Original) The method of claim 18, wherein each different resource specific criterion uniquely identifies different particular computer hardware and wherein identifying the grid computing resource comprises identifying a particular computer having the particular computer hardware.

21. (Original) The method of claim 18, wherein each different resource specific criterion uniquely identifies different particular computer software and wherein identifying the grid computing resource comprises identifying a particular computer having the particular computer software.

22. (Original) The method of claim 18, wherein each different resource specific criterion is selected from one of an operating system criterion, a central processing unit criterion, a memory criterion, a hard disk criterion and a combination thereof.
23. (Original) The method of claim 18, further comprising:
performing the defined function using the identified grid computing resource; and
returning a result to the requesting entity indicating performance of the defined function.
24. (Original) The method of claim 18, further comprising determining a price to be charged for fulfilling the requests.
25. (Original) The method of claim 24, further comprising charging the price for fulfilling the request.
26. - 38. (Canceled)
39. (Previously Presented) A computer readable storage medium containing a program which, when executed by a processor, performs an operation comprising:
receiving, from a requesting entity, a plurality of requests related to a benchmarking operation, wherein at least one of the requests comprises a defined function to be performed and at least each of the remaining requests comprise a different resource specific criterion identifying a different specific resource to perform the defined function;
based on each resource specific criterion, identifying a grid computing resource as the specific resource to perform the defined function, wherein a different grid computing resource is identified for each different resource specific criterion; and
submitting each request to perform the defined function to an appropriate grid resource corresponding to the identified grid computing resource according to the respective different resource specific criterions.

40. (Previously Presented) The computer readable storage medium of claim 39, wherein each different resource specific criterion uniquely identifies a different particular computer and wherein identifying the grid computing resource comprises identifying the particular computer.
41. (Previously Presented) The computer readable storage medium of claim 39, wherein each different resource specific criterion uniquely identifies different particular computer hardware and wherein identifying the grid computing resource comprises identifying a particular computer having the particular computer hardware.
42. (Previously Presented) The computer readable storage medium of claim 39, wherein each different resource specific criterion uniquely identifies different particular computer software and wherein identifying the grid computing resource comprises identifying a particular computer having the particular computer software.
43. (Previously Presented) The computer readable storage medium of claim 39, wherein each different resource specific criterion is selected from one of an operating system criterion, a central processing unit criterion, a memory criterion, a hard disk criterion and a combination thereof.
44. (Previously Presented) The computer readable storage medium of claim 39, further comprising:
performing the defined function using the identified grid computing resource; and
returning a result to the requesting entity indicating performance of the defined function.
45. (Previously Presented) The computer readable storage medium of claim 39, further comprising determining a price to be charged for fulfilling the requests.

46. (Previously Presented) The computer readable storage medium of claim 45, further comprising charging the price for fulfilling the request.

47. (Previously Presented) A computerized environment, comprising:
a processor;
a request manager which, when executed by the processor, is configured to:
receive, from a requesting entity, a plurality of requests related to a benchmarking operation, wherein at least one of the requests comprises a defined function to be performed and at least each of the remaining requests comprise a different resource specific criterion identifying a different specific resource to perform the defined function;
based on each resource specific criterion, identify a grid computing resource as the specific resource to perform the defined function, wherein a different grid computing resource is identified for each different resource specific criterion; and
submit each request to perform the defined function to an appropriate grid resource corresponding to the identified grid computing resource according to the respective different resource specific criterions.

48. (Previously Presented) The computerized environment of claim 47, wherein each different resource specific criterion uniquely identifies a different particular computer and wherein identifying the grid computing resource comprises identifying the particular computer.

49. (Previously Presented) The computerized environment of claim 47, wherein each different resource specific criterion uniquely identifies different particular computer hardware and wherein identifying the grid computing resource comprises identifying a particular computer having the particular computer hardware.

50. (Previously Presented) The computerized environment of claim 47, wherein each different resource specific criterion uniquely identifies different particular computer

software and wherein identifying the grid computing resource comprises identifying a particular computer having the particular computer software.

51. (Previously Presented) The computerized environment of claim 47, wherein each different resource specific criterion is selected from one of an operating system criterion, a central processing unit criterion, a memory criterion, a hard disk criterion and a combination thereof.

52. (Previously Presented) The computerized environment of claim 47, further comprising:

performing the defined function using the identified grid computing resource; and returning a result to the requesting entity indicating performance of the defined function.

53. (Previously Presented) The computerized environment of claim 47, further comprising determining a price to be charged for fulfilling the requests.

54. (Previously Presented) The computerized environment of claim 53, further comprising charging the price for fulfilling the request.

EVIDENCE APPENDIX

None.

RELATED PROCEEDINGS APPENDIX

None.